

Notice of Allowability

Application No.

09/874,074

Applicant(s)

TASOOJI ET AL.

Examiner

Art Unit

Michael B. Holmes

2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to July 28, 2004.
2. ☒ The allowed claim(s) is/are 2-6 and 8-12.
3. ☒ The drawings filed on 04 June 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____



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P.O. Box 1450, Alexandria, Virginia 22313-1450 – www.USPTO.GOV

Examiner's Detailed Office Action

1. Claims 2-6 and 8-12 are allowed.

REASONS FOR ALLOWANCE

2. The following is an Examiner's statement for reasons for allowance:

The closest prior art *Heckerman et al.* (5,696,884), *Heckerman et al.* (5,715,374), *Stier et al.* (USPN 6,591,258), *Stier et al.* (USPN 6,560,589), *Bowman-Amuah, Michel K.* (USPN 6,615,199), *Hekmatpour, Amir* (USPN 5,806,056), *Hekmatpour, Amir* (USPN 5,720,007), Using information management to integrate smart vehicle subsystems, *Silbert, M.*; Digital Avionics Systems Conference, 1996., 15th AIAA/IEEE , 27-31 Oct. 1996 Pages:301 – 305, and A situation-driven adaptive pilot/vehicle interface *Mulgund, S.S.; Zacharias, G.L.*; Human Interaction with Complex Systems, 1996. HICS '96. Proceedings., Third Annual Symposium on, 25-28 Aug. 1996 Pages:193 – 198, does not teach or render obvious applicant's claimed invention.

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3. Specifically, the air-worthiness of a vast number of aircraft and other vehicles is dependent upon many inter-dependent subsystems. Often, when any one of many critical components fails or requires repair, service is disrupted because the entire aircraft or several major systems must be removed from service. Service disruption results in delays, cancellations and significant cost for airline operators, as well as passenger inconvenience. Traditionally, service disruptions are prevented or reduced by large parts inventories and by premature replacement of systems, subsystems and component parts. These remedies are sub-optimum because inventories consume capital and risk obsolescence, and because premature maintenance and component replacement under-utilizes the assets. Therefore, there is a need for a method and a software system which can reduce the delays, cancellation, and inventories that must be carried to ensure parts availability, in order to better manage the maintenance and repair of aircraft systems, subsystems, and components.

4. With regards to claim 2, *Heckerman et al., Stier et al., Bowman-Amuah, Michel K., Hekmatpour, Amir, Silbert, M., & Mulgund et al.*, does not disclose “ ... *An Adaptive Knowledge Management System for assisting a user with decision making by providing real-time, on-line automated recommendations for actions in a monitored vehicle troubleshooting performance trend monitoring, health management and preemptive maintenance domain diagnostics and prognostics comprising: a Structured Knowledge Repository constructed from models, historical data, and heuristics for organizing a model domain knowledge, wherein the Structured Knowledge Repository represents the model domain knowledge in Abstraction Decomposition Space format, and using constraints, capabilities, relationships as prioritized means-ends rows, and physical organization as prioritized whole-part columns ...*”

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5. With regards to claim 6, *Heckerman et al., Stier et al., Bowman-Amuah, Michel K., Hekmatpour, Amir, Silbert, M., & Mulgund et al.*, does not disclose “ ... wherein the Mixed-Initiative Decision Support tools create the outputs usable for vehicle design, adjust factory production set points, improve maintenance schedules, improve fleet management, and make predictions.”

6. With regards to claim 9, *Heckerman et al., Stier et al., Bowman-Amuah, Michel K., Hekmatpour, Amir, Silbert, M., & Mulgund et al.*, does not disclose “ ... wherein the Structured Knowledge Repository represents the model domain knowledge in Abstraction Decomposition Space format, and uses constraints, capabilities, relationships as structured means-ends rows, and physical organization as structured whole-part columns ... ”

7. With regards to claim 11, *Heckerman et al., Stier et al., Bowman-Amuah, Michel K., Hekmatpour, Amir, Silbert, M., & Mulgund et al.*, does not disclose “ ... wherein the step of using the Mixed-Initiative Planning module further includes creating predictions of behavior models through correlation and pattern recognition, and developing a prioritization scheme to tradeoff competing goals and resource limitations ...”

8. With regards to claim 12, *Heckerman et al., Stier et al., Bowman-Amuah, Michel K., Hekmatpour, Amir, Silbert, M., & Mulgund et al.*, does not disclose “ ... wherein the step of using the Mixed-Initiative Decision Support tools includes creating the outputs usable for vehicle design, adjusting factory production set points, improving maintenance schedules, improving fleet management, and making predictions.”

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Correspondence Information

9. Any inquires concerning this communication or earlier communications from the examiner should be directed to **Michael B. Holmes**, who may be reached Monday through Friday, between 8:00 a.m. and 5:00 p.m. EST. or via telephone at **(571) 272-3686** or facsimile transmission **(571) 273-3686** or email Michael.holmesb@uspto.gov.

If attempts to reach the examiner are unsuccessful the **Examiner's Supervisor**, **Anthony Knight**, may be reached at **(571) 272-3687**.

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